

4

**CONFIDENTIAL**

## REPORT

CD NO.

## Bulgaria

DATE OF INFORMATION 1951

Economic - Dielectric plant, electrodes

**PUBLISHED**

Daily newspaper

DATE DIST. 28 Nov 1951

**PUBLISHED**

Sofia

NO. OF PAGES 2

**PUBLISHED**

14, 22 Aug 1951

Bulgarian

SUPPLEMENT TO  
REPORT NO.

THIS IS UNEVALUATED INFORMATION

Vecherni Novini

DESCRIBES NEW DIELECTRIC PORCELAIN PLANT;  
LOCOMOTIVE AND RR CAR PLANT ENGINEERS DEVELOP ELECTRODE

DIELECTRIC PLANT UNDER CONSTRUCTION ... Sofia, Vecherni Novini, 14 Aug 51

The new dielectric porcelain plant covers an area of 18,000 square meters [location of the plant not given in the article]. Raw materials such as kaolin and plastic clays, as well as hard materials, including feldspar, quartz, and coal for baking the product, are found in sufficient quantities near the plant, as well as throughout the country.

Separate shops will be constructed for the different production processes. At the first shop the porcelain mixtures and enamels will be prepared. The basic hard materials will be ground in huge mills. The softer raw materials, stored in a special subterranean warehouse which has a capacity of 1,500 tons, will be ground in drum milling machines and recumbent fixed-vat mixers. The milled materials will pass through a certain number of other processes until the necessary texture is obtained.

The materials are processed in the shop for semifinished products in three ways: by molding machines, by plaster molds, or by pressure molding, all of which is done in manual or high-pressure semiautomatic presses. The molded material is then conveyed to 12 drying rooms, consisting of converters, chambers, and tunnels, in which it is allowed to dry thoroughly. After that, the material is taken to another shop to be baked, either in spherical or in tunnel kilns, at a temperature of 1,300 degrees centigrade. Baking in a spherical kiln requires direct contact with the flame, and therefore high-calory coal must be used.

Two tunnel kilns, which use low-calory coal with good gasification properties and rich in volatile substances, are under construction. The coal will be gasified in special gas generators, and the generated gas will be conveyed into the tunnel kilns. The heating of the tunnel kilns, in which the raw products will be baked at three different temperatures, will be brought about through gas jets leading from the gas main and gas and air mixing chambers. Each tunnel kiln will be able to bake half of the weekly production of the spherical kiln in 24 hours.

## CLASSIFICATION

CONFIDENTIAL

**CONFIDENTIAL**

[illegible]

**CONFIDENTIAL**CONFIDENTIAL

50X1-HUM

Besides the fact that they have higher production capacity and use low-calory coal, the tunnel kilns have the additional advantage that the heat from the baking area can be redirected by high-pressure blowers and used for the drying process in the drying chambers, together with the steam from the boiler room. Derivatives, such as phenol and tars, will be obtained from burning coal in these kilns. The tunnel kilns will be the first of their kind in Bulgaria and on the Balkan Peninsula.

The technicians, specialists, and fuel experts from the USSR are helping in the installation of special apparatus and machinery. The Soviet engineer, Ivan Mikhaylovich Azareevich, is particularly active in installing machinery.

The plant will produce all kinds of electric insulators for high- and low-voltage lines and different small dielectric porcelain insulating articles, such as safety fuses, casings, sockets, pipe couplings, pulley wheels, extension switches, etc.

A large number of other buildings will be constructed around the main building of the plant. Machines which will aid the basic process of production will be installed. A building for housing the gas generator, which will produce the gas for the tunnel kilns, is under construction. The premises for the boiler department are already completed. The building which will house the heating installations for the production process and for the drying chambers is also under construction. Near this building, the foundations of the 55-meter chimney can already be seen. A 35-meter water tower with a pumping station, which will supply the water for the production processes, is being built in the plant yard. The plant has a standard-gauge railroad track for transporting the raw materials directly to the premises.

While the plant is being completed and the huge machines newly arrived from the USSR are being reassembled, preliminary trial production has already begun in some departments of the plant. The prepared white material is shaped by the workers on the presses, dried, glazed, and carefully arranged in special forms for baking in the spherical kiln. Soon this kiln will begin the production of the first dielectric products.

SOFIA PLANT PRODUCES ELECTRODES SUCCESSFULLY -- Sofia, Vecherni Novini, 22 Aug 51

Electric welding is extensively used in the "G. Dimitrov" Locomotive and Railroad Car Plant at Sofia. This is due to the great number of advantages that electric welding has when compared to bolting. The Locomotive and Railroad Car Plant is one of the largest consumers of electrodes in the country. Up to the present, these electrodes have been imported from abroad.

After more than 6 months of experimenting and research, Engineer Khristo Rusovich, technologist at the plant; Chemical Engineer Maksim Purshorov; Engineers Ivan Boshev and Stefan Dobrev; Stefan Subev, veteran welder; and Foreman Simeon Shakov, succeeded in obtaining and making suitable for mass production a high-quality electrode. The excellent mechanical and welding qualities of the electrode make it very efficient for welding all ordinary tool steels used in transportation and industry. It has a pressure capacity of up to 50 kilograms per square millimeter and an elasticity of up to 25 percent. The regular and compact connecting seam, as well as the easy detachment of slag, make this electrode as good a product as the imported one, despite the fact that at present it is not manufactured by the most modern methods.

The electrodes are made exclusively of domestic ores and minerals, making foreign import of these raw materials unnecessary for this purpose. The cost of domestically produced electrodes is much lower than that of the imported ones. In producing 50 tons of these electrodes there is a saving of 20 million leva, in addition to the saving in foreign exchange.

- E N D -

- 2 -

CONFIDENTIAL**CONFIDENTIAL**